

whorls carinate, the keel visible above the suture; first half whorl nearly smooth, the next two whorls sculptured with regular, slightly arcuate ribs, at first rather coarse, becoming finer to the end of the embryonic shell, which comprises $2\frac{1}{2}$ whorls. Whorls $5\frac{1}{2}$, convex, the last swollen below the deeply impressed suture, ventricose, tapering below. The aperture is rather long and narrow, slightly oblique, white within. Peristome slightly thickened close to the edge. Columellar lamella of moderate size, thin and spiral, white; parietal callus thin.

Length 13.1, diam. 7.7, length of aperture 7 mm.

Length 13.4, diam. 8.1, length of aperture 7.1 mm.

Mt. Helu, West Maui. Cotypes in coll. Bishop Museum and Acad. Nat. Sciences. Also in Mr. Thaanum's collection.

While sinistral species are common in *Achatinella* and *Partulina*, they are very rare in *Amastra*. Outside of the section *Heteramastra*, only two have been published, *Amastra thaanumi* Pilsbry and *A. montagui* Pilsbry, both from Oahu.

ON CYPRÆA MILIARIS GMEL., WITH DESCRIPTIONS OF NEW VARIETIES.

BY MAXWELL SMITH.

C. MILIARIS Gmel. Syst. Nat., p. 5420, 1790.

Roberts' description in the Manual of Conchology, vol. vii, p. 192, is as follows: "Differs from the preceding (*lamarcki*) in being narrower, the dorsal spots are smaller and never ocellated, and the sides are white." Melvill writes that the spots "are never eyed, or, at all events, extremely rarely." This and all of the varieties are pitted at the sides. Japan, Philippines, N. S. Wales.

C. MILIARIS Gmel. var. *MAGISTRA* Melvill. Proc. Manchester Literary and Philosophical Society for 1888, p. 227.

"Characters the same as in the type, but teeth very well developed, and size, long. $2\frac{1}{8}$, lat. $1\frac{1}{8}$ inch. . . . It is a handsome shell, and in fine condition it slightly resembles *C. guttata* on dorsal surface only." Habitat, Japan.

C. MILIARIS Gmel. var. *BREVIS* var. nov.

Shell shorter, covered on the dorsal surface with larger spots, teeth finer, aperture narrower than the type. Long. $1\frac{1}{4}$, lat. $\frac{7}{8}$ inch. Habitat, Japan.? Type in the writer's collection.

C. MILIARIS Gmel. var. *INTERMEDIA* var. nov.

Aperture like the type, sides correspondingly pitted, dorsal surface suffused with white, yellow ground and spots showing through in the center, similar in shape to *C. eburnea*. Long. $1\frac{3}{4}$, lat. $1\frac{1}{4}$ inch. Habitat unknown. This form connects *eburnea* Barnes with *miliaris* Gmel. Type in the writer's collection.

C. MILIARIS Gmel. var. *EBURNEA* Barnes.

C. eburnea Barnes. Ann. Lyc. N. H. I., p. 133, 1824. *C. lactea* Wood, 1838.

With the material on hand I believe that I am justified in reducing this well-known *Cypræa* to varietal rank. It is surprising that, at this late date, evidence should turn up to prove *eburnea* to be only a variety of *miliaris*. The intermediate form, already described, does so conclusively. Both occur in the Philippines. Roberts places *eburnea* after *miliaris* in the Manual, but writes that it "differs from *lamarecki* Gray in being pure ivory-white." To my mind it only resembles it in the size of the teeth. The aperture of *lamarecki* is often much narrower below.

NOTES.

MR. FRANK C. BAKER, Curator of the Chicago Academy of Sciences, is spending the month of September in northern Idaho, and expects to visit Oregon, Washington and Vancouver before returning.

DR. ARNOLD E. ORTMANN reports success in collecting *Unionidæ* in the North Fork of the Holston, Clinch, Powell and Upper Cumberland rivers. He is now at Knoxville, and writes: "I have secured a tremendous material of *Najades*, and shall be able, from the study of the anatomy, to straighten out the systematic position of many species. Lea's work on the *Najades* of this region is poor—below criticism. He described *individuals*, but not species, but,